

Title (en)

Reverse flared optical coupling member for use with a high brightness light source

Title (de)

Optisches Koppellement mit kegelstumpfförmigen Enden zur Anwendung mit einer Hochintensitätslichtquelle

Title (fr)

Dispositif de couplage optique à extrémités évasées pour utilisation avec une source lumineuse à haute intensité

Publication

EP 0568190 B1 19971022 (EN)

Application

EP 93302356 A 19930326

Priority

US 85917692 A 19920327

Abstract (en)

[origin: EP0568190A1] An optical coupling assembly (12) is useful for coupling a source of light (14), having high brightness and being non-coherent and focussed at a focal plane P, to a plurality of optical light conductors (16). The coupling assembly (12) includes an elongated light transmissive coupling member (24) which has a central longitudinal axis A and is disposed between the focal plane P of the light source (14) and leading ends (16A) of the optical light conductors (16). The coupling member (24) includes oppositely flared front (28) and rear (30) end portions and a middle portion (32) disposed along the longitudinal axis A, with the middle portion (32) extending between and connected to the front (28) and rear (30) end portions. The coupling member (24) can have either a solid or tubular configuration. The middle portion (32) of the coupling member (12) has cylindrical shape and cross-sectional size of uniform dimensions and being less than the respective cross-sectional sizes of an inlet end (12A) of the front end portion (28) and an outlet end (12B) of the rear end portion (30). The front end portion (28) of the coupling member (12) can have either a frusto-conical or parabolic shape, whereas the rear end portion (30) can have a frusto-conical or parabolic shape being oriented in the reverse of the frusto-conical or parabolic shape of the front end portion (28). The rear end portion (30) has a greater axial length than the front end portion (28) and the outlet end (12B) of the rear end portion (30) is larger in size than the inlet end (12A) of the front end portion (28).

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CPC (source: EP US)

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Cited by

EP2579075A1; DE10305448B4; US5530940A; EP2605050A1; DE102009024800A1; US8554032B2; US8798467B2

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